



# Australian Bureau of Statistics

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### HOME COMPUTING IN AUSTRALIA

"These new services and technologies will change the way we live, work and play. Their effect on our business, our schools and universities, our hospitals, our government, and many other aspects of our daily lives, will be profound." (Prime Minister's April 1995 Statement, **A National Strategy for Information and Communications Services and Technologies**).

"The great benefit of the current 'information age' is not simply that there is a fast growing technical capacity to communicate or send information from anywhere to anywhere. Providing capacity is not sufficient to ensure that the community is better off. It does not indicate how that vast ability is best used within the limits of time, convenience and budget ... The development of publicly-available quantitative and qualitative indicators of emerging Australian demand patterns ... will ensure that both winners and losers in any eventual broadband revolution can clearly and quickly be identified." (Bureau of Transport and Communications Economics 1994).

The two quotes above show the importance of Information Technology & Telecommunications (IT&T) developments to Australian industry and consumers generally. The importance of statistics to the overall process described by the Prime Minister was emphasised by the Bureau of Transport and Communications Economics (BTCE) in presenting its research into 'Communications Futures'. It indicated the need for better statistical information generally on IT&T and related issues. BTCE further indicated that the household sector, as consumers of IT, would have a significant influence in determining which IT&T goods and services predominate in the economy, affordability being one of the main issues determining the pace and direction of change.

In 1992-93 the ABS commenced work on a program of development to establish a set of official IT&T statistics for Australia. One of the outputs from this program is **Information Technology in Australia 1992-93** (8126.0). This publication reported on the characteristics of businesses which form the IT&T industries (i.e. the producers of IT goods and services including manufacturers, wholesalers and other service sector businesses).

A second output, **Household Use of Information Technology** (8128.0), is the result of a survey conducted in February 1994 and is the main focus of this article. Although the rapid uptake in technology by households will quickly render the results out of date, the data nevertheless will provide an important benchmark to which future statistics can be related.

### THE SURVEY

The February 1994 household survey was conducted using the ABS's Population Survey Monitor, a flexible household survey vehicle used to conduct surveys of households for users on a fee for service basis. The survey is constrained by its relatively small sample size, returning 2,300 household observations, compared to the approximately about 30,000 in the ABS's monthly population sample. The sample permits data to be aggregated to State levels and, within States, to capital cities and remainder of State. The small number of observations indicates the need for some caution in interpreting the results.

## UPTAKE OF COMPUTERS

From the February 1994 survey, it was estimated that there are about 6.4 million households in Australia. The total number of households frequently using a computer was estimated to be about 1.5 million. This represented an uptake by nearly 23% of households. Looked at from a potential demand point of view, the survey showed that there were close to 5 million households without a computer. (For the purpose of this survey, a computer was taken to include any portable or desktop computer, excluding dedicated games machines.)

## DISTRIBUTION OF HOME COMPUTERS

Table 22.14 below shows the estimated number of households in each State (divided between State capital cities and remainder of State), and the number which frequently used a general purpose computer.

**22.14 Number of households with computers, February 1994**

		NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
<b>State capital cities</b>										
No. of households	'000	1,194	1,156	492	454	512	63	25	103	<b>3,999</b>
No. with computers	'000	353	322	122	104	114	14	7	37	<b>1,071</b>
Percentage with computers	%	30	28	25	23	22	22	26	36	<b>27</b>
<b>Remainder of State</b>										
No. of households	'000	985	466	625	90	83	110	30	-	<b>2,389</b>
No. with computers	'000	169	62	104	8	23	19	5	-	<b>389</b>
Percentage with computers	%	17	13	17	9	27	17	16	-	<b>16</b>
<b>Total</b>										
<b>No. of households</b>	<b>'000</b>	<b>2,179</b>	<b>1,622</b>	<b>1,117</b>	<b>544</b>	<b>594</b>	<b>173</b>	<b>56</b>	<b>103</b>	<b>6,388</b>
<b>No. with computers</b>	<b>'000</b>	<b>522</b>	<b>384</b>	<b>226</b>	<b>112</b>	<b>136</b>	<b>33</b>	<b>11</b>	<b>37</b>	<b>1,460</b>
<b>Percentage with computers</b>	<b>%</b>	<b>24</b>	<b>24</b>	<b>20</b>	<b>21</b>	<b>23</b>	<b>19</b>	<b>20</b>	<b>36</b>	<b>23</b>

Source: Household Use of Information Technology (8128 0), unpublished and published data.

The figures above indicate that the incidence of computers in households was not evenly spread across States within States. The Australian Capital Territory had the highest incidence at 35.8%. The incidence in other States was significantly lower overall, ranging from New South Wales with 23.9% down to Tasmania with 18.9%. Computers had penetrated into a far greater proportion of households in capital cities than in country areas. In total, capital cities had a 26.8% penetration rate while country areas had a rate of only 16.3%. This difference was consistent across all States, except Western Australia where country households had a slightly higher penetration rate of 27.4%. This estimate is, however, subject to high relative standard errors and care should be used in drawing conclusions from it.

## FAMILY TYPES

Table 22.15 analyses computer usage within households by family type.

**22.15 Computer usage by family/household type, February 1994**

Family/household type	No. of households ( <sup>000</sup> )	No. with computers ( <sup>000</sup> )	Percentage with computers (%)
Married, no dependants	1,494	216	14.5
Married, with dependants	2,314	883	38.1
Single, with dependants	509	104	20.4

Other families/households	2,070	258	12.4
<b>Total</b>	<b>6,388</b>	<b>1,460</b>	<b>22.9</b>

Source: Household Use of Information Technology (8128.0), unpublished and published data.

This table shows that households occupied by married couples with dependents were more likely to have a computer than other family types, 38% of these families used a computer compared to 14.5% of married couples without dependants, 20.4% of households with single parent families and 12.4% of other types. On this basis, it is reasonable to conclude that a large motivation to acquire household computing facilities arises from the presence of children.

This finding is supported by the main use given for home computers, namely education purposes (24.9%) followed closely by entertainment (22.5%). These uses might be expected to be more closely related to children's use of computers than adults' use.

## HOUSEHOLD INCOME

Table 22.16 shows that, in general, the proportion of households with computers increased as household incomes increased. Of the 538,000 households which had an income of more than \$74,000, nearly 56% frequently used a computer. In households which had an income between \$57,001 and \$74,000, just over 38% used a computer. Most other income categories were fairly near the overall average of 22.9% except for those households which had an income of \$7,000 to \$16,000 where the percentages are very small (and are also subject to quite high standard errors).

**22.16 Distribution of computers by household income**

Household income	No. of households ( <sup>000</sup> )	No. of computers ( <sup>000</sup> )	Percentage with computers (%)
\$0-\$7,000	162	29	17.6
\$7,001-\$13,000	814	24	3.0
\$13,001-\$16,000	533	43	8.1
\$16,001-\$24,000	587	104	17.8
\$24,001-\$30,000	554	105	18.9
\$30,001-\$38,000	563	115	20.4
\$38,001-\$46,000	559	162	29.0
\$46,001-\$57,000	508	140	27.5
\$57,001-\$74,000	538	205	38.1
More than \$74,000	538	301	55.9
Not stated	1,031	232	22.5
<b>Total</b>	<b>6,388</b>	<b>1,460</b>	<b>22.9</b>

Source: Household Use of Information Technology (8128.0), unpublished and published data.

## HOME BASED BUSINESS

Of the 742,000 households which had a home based business, 46% had a computer. This compared with 23% for all households in Australia (table 22.16). For households without a home based business, only about 20% had a computer. A comparison of the data in tables 22.16 and 22.17 shows that, for each household income range, a greater proportion of households with a home based business had a computer than those which did not, irrespective of the size of the household income.

**22.17 Distribution of computers in households with a home based business**

Household income range	No. with home business ( <sup>000</sup> )	No. with computers ( <sup>000</sup> )	Percentage with computers (%)
\$0-\$7,000	11	6	56.8
\$7,001-\$13,000	13	-	-
\$13,001-\$16,000	15	5	31.5

\$16,001-\$24,000	29	17	56.8
\$24,001-\$30,000	65	20	31.3
\$30,001-\$38,000	49	23	48.0
\$38,001-\$46,000	104	43	41.5
\$46,001-\$57,000	58	38	65.2
\$57,001-\$74,000	99	56	56.9
More than \$74,000	87	58	66.2
Not stated	213	78	36.6
<b>Total</b>	<b>742</b>	<b>344</b>	<b>46.3</b>

Source: Household Use of Information Technology (8128.0), unpublished and published data.

Clearly the existence of a home based business within a household was a significant motivation to acquire a home computer.

## USE OF MODEMS

Modems enable access to computers and facilities outside the home (such as the Internet). Modems are an essential item of equipment for householders who decide to avail themselves of a range of services, many of which are in development presently. These will encompass a range of electronic services from information to entertainment and home shopping. There is also a trend towards the convergence of data and voice services into a range of diverse everyday products.

At the survey date, a relatively small proportion of households with a computer had also acquired a modem. Only 17% of these households also had a modem. In total only about 4% of households had a modem.

Not surprisingly, modems were much more prevalent in households which had a home based business as can be seen from table 22.18 below.

**22.18 Households with a modem**

	Without home business	With home business	Total
Households with a computer ('000)	5,645	742	6,388
Households with a modem			
No. ('000)	168	80	248
Proportion (%)	3.0	10.8	3.9

Source: Household Use of Information Technology (8128.0), unpublished and published data.

Households which had a home business were three to four times more likely to have a modem. They accounted for about one third of households with a modem (i.e. 80,000 compared to 248,000). Nevertheless, only 10.8% of households which had a home business had a modem.

Of the 80,000 households which had a home based business and a modem, the main use of the computer was for 'business records' in 25% of households, 'other home based business' in 28% of cases and for 'other reasons' in 47% of households. In all, just over half these households acquired the computing equipment for business reasons, 28% specifically for home based business use. For all households which had a computer the main use given was 'educational purposes' (24.9%) followed by 'entertainment' (22.5%). 'Business records' was the main use given by only 12.5% of households and 'other home based business' was given by 4.8% of households.

## THE FUTURE

The survey sought information on the number of households expecting to spend money on

computing equipment over the two year period from 1 February 1994 to February 1996. Overall, 1.7 million households, or 26% of all households, indicated their intention to make some expenditure on computing equipment. Of these 0.8 million already had a computer and a further 0.9 million did not.

The following table focuses on households which reported they did not have a computer at the survey date but which intended to spend money on computing equipment. These households represent potential new entrants to the home computing market.

#### 22.19 Potential new entrants to home computing

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Households without computer equipment									
Total number ('000)	1,658	1,238	891	432	458	141	44	66	4,928
No. intending to spend on computer equipment ('000)	270	224	238	55	77	26	5	18	913
Proportion intending to spend on computer equipment (%)	16.3	18.1	26.8	12.6	16.9	1.9	1.1	27.7	18.5

Source: Household Use of Information Technology (8128.0), unpublished and published data.

In total, about 913,000 households without computing facilities at the survey date (February 1994) planned to spend on home computing equipment in the ensuing two years. These represent 18.5% of all households without computing facilities at the survey date (or 4.3% of all Australian households. Australian Capital Territory and Queensland appeared to be likely to have a greater take up rate than other States.

The survey suggests that there is the potential for substantial growth in the number of households with computers over the two years from February 1994. If most of these expenditure plans were to go ahead, the total number of households with home computer access would be in the order of 2 to 2.5 million by 1996.

## EXPENDITURE LEVEL

On the assumption that these expectations were realised, it is possible to make an estimate of the expenditure that was made by households in the 12 month period between February 1994 and February 1995 using the data in the above table. By taking the midpoint of each range, multiplying by the number of households, and summing across size ranges one can estimate that there would have been expenditure of about \$1.6 or 1.7 billion. this is the equivalent of \$100 for every man, woman and child in Australia.

#### 22.20 Planned expenditure in the 12 months from February 1994

Expenditure range	No. of households ('000)
\$1-\$1,000	457
\$1,001-\$3,000	382
\$3,001-\$5,000	108
More than \$5,000	36
Don't know	60
<b>Total</b>	<b>1,043</b>

Source: Household Use of Information Technology (8128.0), unpublished and published data.

Of course, this figure does not take into account any influences which have occurred since February 1994 which may have caused households to alter expenditure plans (e.g. publicity

surrounding revelations about the information superhighway, which the survey predates).

Whichever measure you use, it is impossible to come to any other conclusion than that the home computing market is large and expanding rapidly.

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